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JP 5-290632

[Note: Names, addresses, company names and brand names are translated in the most common manner. Japanese language does not have singular or plural words unless otherwise specified by a numeral prefix or a general form of plurality suffix.]

(54) Name of the invention

Al Aerial (Overhead) Power Line

(57) [Abstract]

[Goal]

The goal of the present invention is to suggest an Al aerial power line where even after the line stretching (uncoiling) and the line tightening construction it is possible to reliably discriminate the presence or absence of twisted wire.

[Structure]

In the case of this Al aerial power line 1, on one part of the front surface 1a along the longitudinal direction a sand blasting treatment has been conducted.

[Results]

By the brightness difference between the sand blast treated surface and the non-treated surface it is possible to observe the twisted wire state. This sand blast treated surface does not causes losses and because of that even if a long time has passed after the line stretching, line tightening operations, it is formed on the front surface of the electrical wire, and it is also possible to be observed and confirmed at the time of the conservation operations.

[Scope of the Claims]

[Claim 1]

Al aerial power line characterized by the fact that on one part of the front surface along the longitudinal direction sand blast treatment has been conducted.

[Claim 2]

(19) Patent Office of Japan (JP) (11) Publication of Patent Application

326 JAPANESE PATENT APPLICATION (KOKAI)(A)

Hei-Sei 5-290632

326 Int. CL. 5 ID Code Office Cont'l No. (43) Publication: Hei-Sei 5 (1993) 11/5

F1
H 01 B 5/08
H 02 G ½ S 7373-5G

Verification request: not requested

Number of claims of the invention: 2

Number of pages (total of 3)

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(54) Name of the invention:

Al Aerial Power Line

(21) Filed Number: Application Hei-Sei 4-92652

(22) Filed Date: Hei-Sei 4 (1992) 4/13

(71) Patent Assignee: Furukawa Electric Co. Ltd.

Al aerial power line according to the Claim paragraph 1 where on the above-described sandblast treated surface, especially, a bohemite treatment or a low brightness treatment is conducted.

[Detailed Description of the Invention]

[0001]

[Technological Sphere of Application]

The present invention is an invention about an Al aerial power line, and especially in more details, the present invention is about an Al aerial power line where even after the passing of prolonged period of time after the completion of the line stretching and the line tightening construction, it is possible to assess the wire twisting state of its power line.

[0002]

[Previous Technology]

When during the line stretching operations and the line tightening operations of the Al aerial power line its power line is rotated and the wire is twisted the problems is generated that because of the change of the electrical wire apportioned stress etc., there is a decrease of the strength of the power line and a shortening of the working life span, etc. Also, for example, in the case when as a counter measure for the trouble causing lightening a twist eliminating weight is provided, and if by its galloping etc., vibrations, power line is twisted, the same way, the strength of the power line is decreased and the working life span is shortened.

[0003]

Because of that, after the completion of the line stretching and the line twisting operations of the power line, and during the conservation operation, the presence or absence of a wire twist in the aerial power line is assessed, and in the case when the wire is twisted an operation in order to restore its correct state becomes necessary. In the past, in order to assess the twisted wire state of the aerial power lines, for example, in the case when the wire stretching operation is conducted through the pull out method, one side of the front surface of the power line is colored along the wire stretching direction by coating a colorant etc., coloring material. If during the wire stretching the power line is rotated, the colorant material coated stripe is detected as a spiral state and by that it is possible to reliably confirm the presence or absence of a wire twist.

[0004]

[Problems Solved by the Present Invention]

Regarding the above-described countermeasure, it is a simple method as a method to confirm the wire twist state of aerial power lines. However, the colorant material that is coated on one surface of the power line has poor weather resistance properties and there are many cases where several months after the coating it is separated and peeled off of the surface of the power line. Consequently, in the case of the above described countermeasure it can only be used during the line stretching and the line tightening construction and it is not effective for the conservation operations that occur after the completion of the construction.

[0005]

The present invention has as a goal to solve the above described problems and to suggest an Al aerial power line whereby it is possible to assess the state of the wire twisting during the conservation procedures after the construction and naturally also during the wire stretching and the wire tightening operations.

[0006]

[Measures in Order to Solve the Problems]

In order to achieve the above described goals, according to the present invention an Al aerial power line is suggested that is characterized by the fact that on one part of the surface, along the longitudinal direction, a sand blasting treatment is conducted.

[0007]

[Effect]

The surface where a sand blasting treatment has been conducted becomes a surface that has protrusions and indentations and it is not a glossy surface. Because of that, it is possible to discriminate the sand blasting treated surface and the non-sand blasting treated surface. Consequently, during the wire stretching and the wire tightening construction it is possible to easily observe and confirm the presence or absence or wire twisting of the power line. Also, the working life span of the sand blasting treated surface is the same as the use working life span of its power line, and because of that even after the completion of the construction, in the case limited to power lines that are overhead, the presence or absence of wire twisting continues to be indicated, and because of that the conservation operations become easy.

[0008]

[Practical Examples]

Here below the practical implementation example according to the present invention will be explained based on the appended diagram. Figure 1 represents a side view diagram of an aerial power line example according to the present invention. According to the figure, on one side of the surface of the power line 1, along the longitudinal direction of the power line 1, the sandblast treated surface 1a is formed. The sandblast treated surface 1a has protrusions and indentations and it is not a glossy surface. Consequently, there is a difference in the gloss of the high brightness, glossy surface, non-treated surface 1b and the sand blast treated surface 1a, and this is observed as a clear brightness difference, and by that it is possible to easily discriminate both surfaces.

[0009]

Relative to the span (width) of this sand blast treated surface 1a there are no particular regulations, and it is a good option as long as it allows for the discrimination of the non-treated surface 1b. As a rule, it is appropriate if it is at a level where it is half of the surface of the aerial power line 1. Also, if on this sand blast treated surface 1a, especially, a brightness lowering treatment is conducted, such as a bohemite treatment is conducted, or if after the sand blasting treatment it is treated as it is immersed in 90oC pure water (deionized water), it is preferred, because the discrimination relative to the non-treated surface 1b, becomes even more clear.

[0010]

An example when this aerial power line has a twisted state is shown in Figure 2. As it is clear from Figure 2, if the aerial power line has a twisted wire, the sand blast treated surface 1 a also follows the wire twisted state of the aerial power line, and the spiral shape pattern of the sand blasted surface 1a is observed, and because of that it is possible to discriminate whether or not the aerial power line has a twisted wire.

[0011]

[Results From the Present Invention]

As it is clear from the above described explanation, the Al aerial power line according to the present invention allows for the clear discrimination of the brightness difference of the sand blast treated and the non-sand blast treated surface, and because of that it is possible to easily discriminate the presence or absence of wire twisting in the power line. Not only that, but also, because of the fact that this sand blast treated surface has the same working life span as that of the aerial power line, naturally it is not lost during the wire stretching construction and the wire tightening construction, but also it is not lost after the construction. Consequently, even in the conservation operations it is possible to reliably discriminate the presence or the absence of wire twisting.

[Brief Explanation of the Figures]

[Figure 1]

Figure 1 represents a side view diagram showing an example of the Al aerial power line according to the present invention.

[Figure 2]

Figure 2 is a side view diagram showing the twisted wire state of the Al aerial power line according to the present invention.

[Explanation of the Symbols]

1.....Al aerial power line
1a.....sand blast treated surface
1b.....non-sand blast treated surface

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03/10/03

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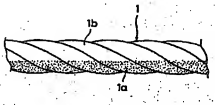
1b　サンドブラスト非処理面

4

【図1】



【図2】